



JELLYFISH PICTURES

## Jellyfish Pictures Case Study

# Jellyfish Pictures Enables Next Round of Business Growth by Growing with Remote Talent Pool and Decentralized Data Environment



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Jellyfish Pictures is one of the most respected visual effects (VFX) and animation studios in the world, employing more than 300 artists with two U.K. studios and offering remote work around the globe. The Jellyfish team has done engaging and innovative work for blockbuster movies such as Lucas Films' Star Wars series Solo: A Star Wars Story, The Last Jedi and Rogue One: A Star Wars Story; and TV Dramas, including HBO's Watchmen, Netflix's The Innocents and Black Mirror: Hated in the Nation. Its motto is "No borders. Total security. Certain delivery."

## The Problem

***"Jellyfish's virtual transformation predates COVID. We built our first virtual VFX and animation studio in 2016 and went completely virtual in December 2019. Then the pandemic hit in early 2020. It massively shifted how everyone looks at remote work."***

***Even with our previous shift to virtual studios, the sudden move to remote work and our customers pausing their live shoots impacted our business. Production plans depended on more animation and special effects, so our work grew nearly overnight. We hired a hundred new artists to help carry the load, but we quickly realized that sharing large files across the world, to keep the remote artists productive, would be a real issue."***  
**Jeremy Smith, CTO, Jellyfish Pictures**



# Big Growth Takes Big Innovation

The studio had a leg up on its competitors since it had virtualized all its locations in 2019. But giving high-performance, local access to content files, collaborating between hundreds of artists working out of home offices located around the globe was a new and even more difficult challenge. Not only were their staff members suddenly working from home, but they were working from widely distributed home countries including the U.K., Canada, the U.S., and India.

For Jellyfish to rapidly grow the business, they needed to adapt their technology architecture to allow them to recruit, and rapidly make productive, new artists from anywhere around the world to meet spiking demand.

With the increased workload and widely distributed staff, traditional file movement methods like FTP, rSync, and shipping physical media were too complex and inefficient. Even in the cloud, continually moving and managing huge files around the world was a very manual, slow, and expensive proposition.

## Driving Operational Efficiency With Innovation

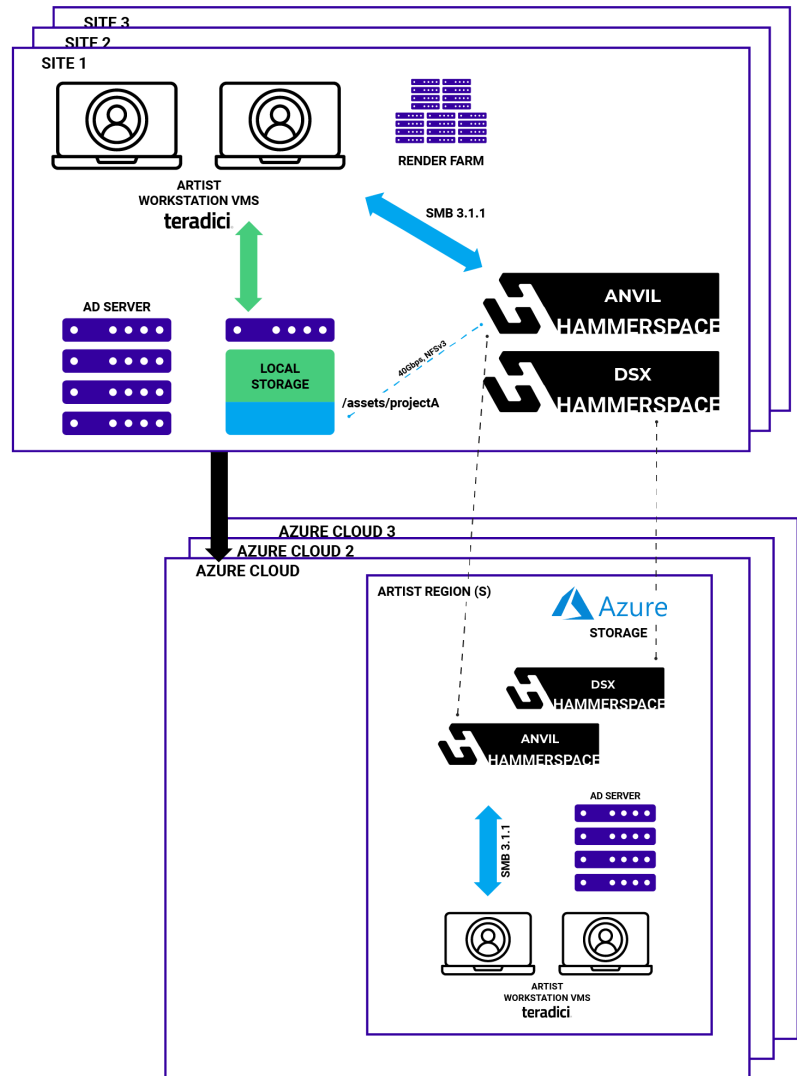
A related issue was the high cost of render workloads in more expensive cloud regions. The rendering work for each project requires hundreds or thousands of GPUs and CPUs. The cost of the compute resources available in different cloud regions can vary significantly depending on how busy the resources in the region are as well as the expense of the services in that region. Rendering in London or Los Angeles is significantly more expensive than some of the cloud regions located further from massive city centers. Cloud-bursting render files in the lower-cost regions made sense, but adding the cost and time of moving files across Azure locations did not. Jellyfish sought out technologies that could overcome the concept of data gravity and would be able to move the data to the optimal compute and remote artists efficiently. This was instead of moving the compute and the artists to where the data was.

“We saw the opportunity to drive operational efficiencies by first leveraging available compute resources which we already own, and then, bursting to not just the cloud for scale – but – to the most cost-effective cloud region for cost efficiencies. We needed a solution to simply and quickly move data from one location to another, even if they were literally half a world apart. We also needed a way to control high render costs without adding more time to an already intensive workflow.” (Jeremy Smith, CTO, Jellyfish Pictures)



# The Solution: Massive File Movement, Massively Simplified

Jellyfish partnered with Azure and Hammerspace to transparently orchestrate content to a globally distributed and growing workforce and enable cost-effective renders in a choice of geographic cloud regions. The solution was seamless to the artists' workflows as Hammerspace is integrated with Jellyfish's workflow management tool, Autodesk ShotGrid. As a project is triggered within ShotGrid to move content files, Hammerspace makes the content movement easy leveraging Terraform in Azure to make hundreds of millions of files globally accessible for read/write access in multiple locations, in minutes.



When Jellyfish leveraged Hammerspace to build a Global Data Environment, they deployed on-premises Anvil metadata servers, each with 4 DSX (data services) nodes. The nodes include high-speed NVMe SSDs connected to Hammerspace instances in multiple Azure regions. The Anvils work by replicating metadata between points in a bi-directional replication configuration. All sites are active, with all artists able to perform high-performance read/write on the same shared dataset.

Jellyfish also improved disaster recovery planning using Hammerspace's replication process to ensure the high availability of assets for ongoing work in the event of an outage.

# The Outcome: Local Access to remote Content, At Last!

By dynamically combining Hammerspace on-premises resources and cloud instances with low-cost cloud regions, Jellyfish optimized its business for fast growth, scalability, and revenue.

Artists can log in from anywhere via the Hammerspace Global Data Environment, making it possible for any user, any application, and any location to share the same data set or content repository. Files appear as local files to users, and artists access their work without making copies.

Dynamic workloads are always available, so staff in different time zones can work on the same projects without disrupting each other. Artists can also apply custom metadata tags to files through Autodesk Shotgrid or directly through the Hammerspace API, simplifying downstream orchestration and processing.

The Jellyfish workloads are also quite demanding from a performance perspective requiring hundreds of simultaneous render jobs accessing Hammerspace from Windows workstations over the SMB protocol. In addition to IOPS and throughput performance, Hammerspace has made Jellyfish think about performance in a new way, enabling the locality of data at a file-granular level so that users have the files they need when they need them.

***“Hammerspace is a core part of the Jellyfish strategic vision, helping us expand our global workforce in a highly competitive industry, increasing our productivity to meet and exceed our clients’ expectations while greatly reduce costs on multiple levels,” said Jeremy Smith. “The intelligence of the Hammerspace solution gives us far greater control of our data and provides quantifiable and tangible value to our business.”***



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